REMARKS

Claims 1-15 are pending in the application. The Examiner rejects claims 1, 2, 4, 6, 7, 9, 11, 12, and 14 under U.S.C. §103(a) as being unpatentable over Wang (U.S. Patent No. 6,118,817) in view of Ackland et al. (U.S. Patent No. 5,739,562). The Examiner rejects claims 3, 8, and 13 under U.S.C. §103(a) as being unpatentable over Wang in view of Ackland and in view of Voois (U.S. Patent No. 6,404,776). The Examiner rejects claims 5, 10, and 15 under U.S.C. §103(a) as being unpatentable over Wang in view of Ackland and in view of Leidig (U.S. Patent No. 5,822,625).

Claims 1-15 remain in the application.

Applicant adds no new matter and requests reconsideration.

Claim Rejections - 35 U.S.C. §103

The Examiner alleges Wang discloses all of the elements of claim 1 except for disclosing that an integration time of pixels of the imager is determined from the computed bandwidth constrained frame rate (BCFR). Wang discloses a video signal encoder that maximizes image quality without exceeding available transmission bandwidth. It does so by comparing encoded frames to a desired frame size that is consistent with available bandwidth. If the encoded frames differ from the desired frame size, the encoder adjusts the quantization to produce encoded frames closer in size to the desired size.

Turning now to the claims. Claim 1 recites *computing a bandwidth constrained frame rate from a frame rate and a bandwidth of a link*. Claims 6 and 11 include a similar limitation. Wang discloses no such computation.

Wang tracks available bandwidth by subtracting from the total bandwidth, the bandwidth occupied by I-frames. Column 7, lines 62-65. Claims 1, 6, and 11, on the other hand, recite computing the BCFR from a link's bandwidth (BW) divided by the product of frame size (FS) times compression ratio (CR), if any. Specification, page 5, line 17.

Claim 1 recites *determining whether the computed bandwidth constrained frame rate is smaller than a requested rate of video frames from the imager, and if so, determining an integration time of pixels of the imager from the computed bandwidth constrained frame rate.* Claims 6 and 11 include a similar limitation.

The Examiner agrees that Wang does not disclose such a determination. But the Examiner alleges Ackland discloses an imaging system in which a sensor collects generated charge carriers during the integration time as determined by frame size. Ackland discloses an

active pixel image sensor in which "generated charge carriers are collected under the photo gate 101 for a predetermined period.... The maximum integration time is dictated by the frame rate, or in other words, the number of times per second an image is updated, for the particular image application for which the active pixel is being used." Ackland, column 4, lines 34-38. Nowhere does Ackland suggest that the integration time is determined, adjusted, or varied responsive to the computed BCFR as recited. And since Wang does not disclose computing the BCFR, the combination of Wang and Ackland cannot obviate claim 1.

Furthermore, neither Wang nor Ackland provide any motivation to combine the inventions described therein. The Examiner alleges that combining Wang and Ackland is advantageous because it helps reduce noise and increase image quality. But this is the very motivation provided by the present application. In other words, the Examiner appears to use the hindsight gained from the present application to suggest the Wang and Ackland combination. Wang and Ackland themselves do not provide such a combining motivation.

Claim 3 recites *wherein the bandwidth constrained frame rate is computed also from a compression ratio of the imager.* Claims 8 and 13 include a similar limitation. The Examiner agrees neither Wang nor Ackland discloses this limitation but alleges the further combination of Voois obviates the invention. We disagree.
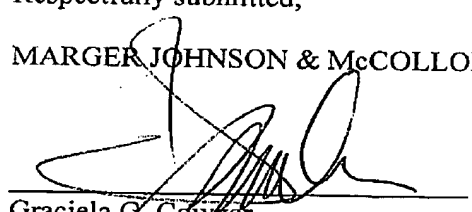
Voois discloses a video codec 50 that complies with a video compression standard such as H.263. Voois, column 5, lines 54-55. But Voois does not disclose computing, calculating, or otherwise determining the BCFR much less computing the BCFR from a compression ratio. Voois merely describes the existence of compression standards and compression ratios. Even if Wang and Ackland did disclose determining the BCFR and the other limitations recited in claims 1, 6, and 11, the further combination of Wang, Akcland, and Voois would not disclose computing the BCFR from the compression ratio because Voois makes no connection between bandwidth, frame size, and compression ratio. That is, Voois does not suggest that the BCFR could be inversely related to the compression ratio. And the Examiner's provided motivation to combine Wang, Akcland, and Voois is again gleaned from the present application. That is, the motivation to combine the references appears a result of impermissible hindsight.

Conclusion

Applicant requests reconsideration and allowance of all claims as amended.

Applicant encourages the Examiner to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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